

09/992,344

REMARKS

Claims 1-4, 6-22, 25 and 28-30, all the claims pending in the application, stand rejected on prior art grounds. Applicants respectfully traverse these rejections based on the following discussion.

I. The Prior Art Rejections

Claims 1, 6-8, 10, 21, 22, 25, 28 and 29 stand rejected under 35 U.S.C. §102(b) as being anticipated by Nozick. Claims 2-4, 9 and 30 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Nozick in view of Clinton et al. hereinafter "Clinton". Applicants respectfully traverse these rejections based on the following discussion.

A. The Rejection Based on Nozick

Applicants respectfully submit that Nozick does not anticipate the claimed invention because, among other reasons, the claimed invention defines that the inverse-U shaped "fuse comprises a continuous conductive element." To the contrary, the U-shaped structure 7 shown in Figure 2 of Nozick is an insulator.

More specifically, the English-language portion of Nozick states that "The insulating wedge of material formed as a U-shape has one branch of the U under each elastic arm. This keeps the ends (62', 63') of the arms away from the line terminals normally." While the English-language portion does not explicitly identify item 7 as an insulator, the remaining portion of the English-language description clearly describes that item 7 is an insulator.

The first paragraph of the English-language Abstract describes that an elastic element 6 (Figure 1 of Nozick) is connected to a conductor 2 and is initially separated from conductors 3 and 4. Figure 1 appears to be a side-view and Figure 2 appears to be a top-view (or vice versa). This can be seen where item 62 is shown in cross-section in Figure 1 and is shown in top-view in Figure 2. While the H-shaped items in Figure 1 are not identified, by observing Figure 2, the H-shaped items are clearly portions of the U-

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shaped structures 7. More specifically, the H-shaped items in Figure 1 are positioned below the elastic portion 62. The same portions are shown from the different perspective as items 71' and 72' in Figure 2. Therefore, Applicants submit that the relative positions of the structures shown in Figures 1 and 2 demonstrate that the H-shaped items in Figure 1 are portions of the U-shaped structure shown in Figure 2.

As described in the last paragraph of the English-language abstract, when there is an over-voltage condition, the insulating wedge melts allowing the arms 62, 63 to move down and provide a short circuit of element 2 to the conductors 3, 4. As described above, the relative positions of the structure shown in Figures 1 and 2 demonstrate that the H-shaped items in Figure 1 are portions of the U-shaped structure shown in Figure 2. Since it is the H-shaped structures that must melt to allow the ends of members 6 to contact conductors 3 and 4, the U-shaped structure 7 must be the U-shaped insulating wedge described in the English-language abstract.

Also, the French-language abstract describes item 7 as "élément isolant et fusible en forme de U" which appears to describe an insulating fusible element 7 formed in a U (although Applicants have not had this portion translated by an accomplished English-French translator). In support of the foregoing, Applicants attach hereto a copy of page 280 of French-English Science Dictionary, McGraw-Hill Book Co., and, 1951, indicating that the French term "isolant" translates to the English terms "insulating substance" or "insulator." Therefore, Applicants submit that this description clearly provides that the U-shaped member 7 shown in Figure 2 of Nozick is an insulator and not a conductor.

This is directly contrary to the invention defined by independent claims 1, 8, and 25. More specifically, independent claims 1, 8, and 25 each defined "an inverse-U shaped fuse . . . wherein said fuse comprises a continuous conductive element." In Nozick the element 7 is designed to melt and create a short-circuit when an over-voltage condition exists (see English-language abstract). The invention is directly contrary to such a structure. Instead, the claimed invention includes a conductive fuse that is designed to melt and prevent an electrical connection when an over-voltage condition exists. Therefore, Applicants submit that Nozick actually teaches away from the claimed invention because Nozick teaches that the exact opposite reactions should occur during a certain set of conditions when compared to the reaction created by the invention.

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Therefore, one ordinarily skilled in the art would not have made reference to the teachings in Nozick when designing a fuse that breaks a circuit. Instead, only those interested in forming short circuits would have made reference to Nozick. Thus, Applicants submit that not only does Nozick not teach each and every element of the claimed invention as defined by independent claims 1, 8, and 25 (as required by 35 U.S.C. § 102) but further that Nozick would not have been referred to by one ordinarily skilled in the art because Nozick teaches away from the invention.

Thus, the U shape that is referred to in the Office Action is actually made of an insulator. Nozick does not disclose a metal fuse, rather, Nozick discloses melting an insulator supporting an "elastic element" 6 that will provide a short-circuit when an over voltage occurs. The claimed invention uses a conductor that forms an open circuit when desired. Applicants further note that the air gap that is below the insulating element in Nozick is far afield from the Applicants' invention in that Nozick does not disclose a conductive fuse element. Further, Nozick has three electrodes (2, 3, and 4), a U-shaped insulating material 7, and an elastic element 6. Applicants disagree that this can constitute an integrated circuit. Also, the air gap mentioned in the Office Action does not exist under the conductors in Nozick. Instead, there is only a gap below the U-shaped insulator and under the elastic element.

In view of the foregoing, Applicants respectfully submit that Nozick does not teach or suggest "an inverse-U shaped fuse . . . wherein said fuse comprises a continuous conductive element," as defined by independent claims 1, 8, and 25. Therefore, these claims are not anticipated by Nozick and are allowable. Dependent claims 6, 8, 10, 21, 22, 28, and 29, are similarly patentable, not only by virtue of their dependency from a patentable independent claim, but also by virtue of the additional features of the invention they define. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw this rejection.

B. The Rejection Based on Nozick in view of Clinton

Clinton is referenced for showing an electroplated fuse element. However, Applicants submit that Clinton is not properly combinable with Nozick because Clinton

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requires that the fuse element be positioned within the insulator and the teachings regarding electroplating fuse elements would be irrelevant to the claimed invention which include external fuse elements. Clinton requires that the "fuses 50 are positioned in hollow cavities in the insulator 30" (Abstract, lines 8-10). Therefore, Clinton explicitly requires that the fuse element be positioned within the insulator 30. The invention is fundamentally different than the structure shown in Clinton and has the fuse positioned external to the insulator. In addition, as shown above, Nozick actually teaches away from the claimed invention by creating a short circuit. Also, the teaching of melting the insulator in Nozick would destroy the function of the structure in Clinton because it would cause short circuits in the structure in Clinton. Thus, Applicants submit that there is no motivation in either reference toward teaching any combination to form the invention.

Therefore, Applicants respectfully traverse this rejection on the basis that a prima facie case of obviousness has not been set forth because the applied references are not properly combinable since the teachings are essentially unrelated. Since this rejection is defective, Applicants respectfully request that it be withdrawn and that dependent claims 2-4, 9 and 30 be passed to issue.

II. Formal Matters and Conclusion

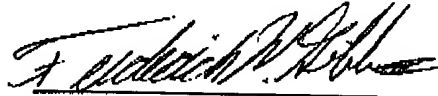
In view of the foregoing, Applicants submit that claims 1-4, 6-22, 25 and 28-30, all the claims presently pending in the application, are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary.

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Please charge any deficiencies and credit any overpayments to Attorney's Deposit
Account Number 09-0458.

Respectfully submitted,



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Professor of Modern Languages, Iowa State College

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1. *Introduction*

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